REPORT OF THE COMMITTEE ON ZONING, PLANNING AND HOUSING

Voting Members:
Ron Menor, Chair; Tommy Waters, Vice-Chair;
Brandon Elefante, Ann Kobayashi, Joey Manahan

Committee Meeting Held
August 22, 2019

Honorable Ikaika Anderson
Chair, City Council
City and County of Honolulu

Mr. Chair:

Your Committee on Zoning, Planning and Housing, which considered Bill 25 (2019) entitled:

"A BILL FOR AN ORDINANCE RELATING TO THE ADOPTION OF THE STATE ENERGY CONSERVATION CODE,"

introduced on May 6, 2019 and which passed first reading at the July 3, 2019 Council meeting, reports as follows:

The purpose of Bill 25 (2019) is to regulate the design and construction of residential and commercial buildings for the effective use of energy through the adoption of the State Energy Conservation Code (2017), subject to the local amendments set forth in the Bill.

On February 14, 2017, the Hawaii Building Code Council adopted and amended the International Energy Conservation Code, 2015 Edition, as the State Energy Conservation Code. Section 107-28 of the Hawaii Revised Statutes requires the governing body of each county to amend, adopt, and update the state building codes as they apply within their respective jurisdiction, without approval of the Hawaii Building Code Council, no later than two years after the adoption of the state building codes. If a county does not amend the state building codes within the two-year timeframe, the Hawaii State building codes would become applicable as interim county building codes.

The two-year timeframe, beginning February 14, 2017, for the City to amend the State Energy Conservation Code lapsed on February 14, 2019. Accordingly, the State Energy Conservation Code (2017) serves as the interim City code until the City enacts its amendments to the State Energy Conservation Code.

At your Committee's meeting on August 22, 2019, the Acting Director of Planning and Permitting testified in support of the Bill. The Executive Director from the Office of Climate Change, Sustainability and Resiliency ("CCSR") provided a brief presentation on the Bill.

BOMA Hawaii; 350Hawaii.org; Blue Planet Foundation; Hawaii Energy; Young Progressives Demanding Action; Our Revolution Hawaii; and three individuals testified in support of the Bill. The Hawaii Teamsters and Allied Workers; BIA-Hawaii; and one individual testified in opposition to the Bill. The Hawaii State Energy Office; Pacific Resource Partnership; TESLA; Hawaii Gas; Sierra Club Oahu; Hawaii Construction Alliance; RMA Sales; Ulupono Initiative; Hawaii LECET; and four individuals offered comments on the Bill.

Your Committee received written testimony in support of the Bill from We Are One Inc.; Elemental Excelerator; Shifted Energy; The Greenlink Group; FORTH; Electrification Coalition; Young Democrats of Hawaii; Natural Resources Defense Council; Trees for Honolulu's Future; Healthy Climate Communities; Hawaiian Electric Company, Inc.; Earthjustice; Hawaii Solar Energy Association; Eco Tipping Points Project; and 140 individuals. Written testimony in opposition to the Bill was received from NAIOP Hawaii; D.R. Horton; and eight individuals. The International Union of Bricklayers and Allied Craftworkers, Local 1 of Hawaii; Hawaii Regional Council of Carpenters; Hawaii Laborers Union Local 368; and four individuals offered comments on the Bill.

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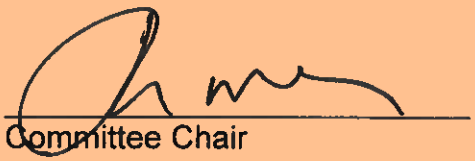
Your Committee prepared a CD1 version of the Bill that makes the following amendments:

A. Makes miscellaneous technical and nonsubstantive amendments, including formatting changes and amendments to conform the Bill to recommended drafting style.

Your Committee on Zoning, Planning and Housing is in accord with the intent and purpose of Bill 25 (2019), as amended herein, and recommends that it pass second reading, be scheduled for a public hearing, and be referred back to Committee in the form attached hereto as Bill 25 (2019), CD1. (Ayes: Elefante, Menor, Waters – 3; Ayes with reservations: None; Noes: None; Excused: Kobayashi, Manahan – 2.)

Respectfully submitted,



Committee Chair

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

ORDINANCE _____

BILL **25 (2019), CD1**

A BILL FOR AN ORDINANCE

RELATING TO THE ADOPTION OF THE STATE ENERGY CONSERVATION CODE.

BE IT ORDAINED by the People of the City and County of Honolulu:

SECTION 1. Purpose. The purpose of this ordinance is to regulate the design and construction of residential and commercial buildings for the effective use of energy through the adoption of the State Energy Conservation Code (2017), subject to the local amendments herein.

SECTION 2. Chapter 32, Revised Ordinances of Honolulu 1990 ("Building Energy Conservation Code") is repealed.

SECTION 3. The Revised Ordinances of Honolulu 1990 is amended by adding a new Chapter 32 to read as follows:

"Chapter 32.

BUILDING ENERGY CONSERVATION CODE

Article 1. Building Energy Conservation Code

Sec. 32-1.1 Adoption of the State Energy Conservation Code.

The State Energy Conservation Code (SECC), as adopted by the State of Hawaii on February 14, 2017, which adopts, with modifications, the International Energy Conservation Code, 2015 edition (IECC), as copyrighted by the International Code Council, is adopted by reference and made a part hereof, subject to the following amendments, which, unless stated otherwise, are in the form of amendments to the IECC 2015 edition:

(1) Amending Section C101.1. Section C101.1 is amended to read:

C101.1 Title

This code shall be known as the Building Energy Conservation Code (BECC) of the City and County of Honolulu (CCH) or the CCH BECC. It is referred to herein as "this code."

(2) Amending Section C103.1 Section C103.1 is amended to read:

C103.1 General. When the requirements in this code apply to a building as specified in Section C101.4, plans, specifications, or other construction documents submitted for a building, electrical, or plumbing permit required by the jurisdiction must comply with this code and will be prepared, designed, approved, and observed by a design professional. The responsible design professional shall provide on the plans a signed statement certifying that the project is in compliance with this code.

Exception: Any building, electrical or plumbing work that is not required to be prepared, designed, approved or observed by a licensed professional architect or engineer pursuant to Chapter 464, Hawaii Revised Statutes (HRS).

(3) Amending Subsection C103.2. Subsection C103.2 is amended to read:

C103.2. Information on construction documents. Construction documents must be drawn to scale upon suitable material or submitted in an electronic form acceptable to the code official. Construction documents must be of sufficient clarity to indicate the location, nature, and extent of work proposed and show, in sufficient detail, pertinent data, and features of the building, systems, and equipment as herein governed. Details must include, but are not limited to the following, as applicable:

1. Insulation materials and their thermal resistance (*R*-values);

2. Fenestration U-Factors and solar heat gain coefficients (SHGCs);

3. Area-weighted U-factor and SHGC calculations;

4. Mechanical system design criteria and power requirements;

5. Mechanical and service water heating system and equipment types, sizes and efficiencies;

6. Economizer description;

7. Equipment and system controls;

8. Fan motor horsepower (hp) and controls;

9. Duct sealing, duct and pipe insulation and location;

10. Lighting fixtures schedule with wattage and control narrative;

11. Location of daylight zones on floor plans; and

12. Air sealing details.

All plans, reports, and documents must be certified by the project design professional or engineer, using the appropriate form shown below and submitted to the code official certifying that the plans and documents conform to the requirements of this code.

CITY AND COUNTY OF HONOLULU
REVISED ORDINANCES OF HONOLULU 1990
CHAPTER 32

To the best of my knowledge, this project's design substantially conforms to the Building Energy Conservation Code for:

_____ Building Component Systems
_____ Electrical Component Systems
_____ Mechanical Component Systems

Signature: _____ Date: _____
Name: _____
Title: _____
License No.: _____

Include only those items that the signator is responsible for. This block shall be on the first sheet of the pertinent plan, e.g. architectural, electrical, and mechanical. The above may be submitted separately to the Code Official in a letter including the identification of the building.

(4) Amending Subsection C104. Subsection C104 is amended to read:

C104.2 Required inspections. Inspections must comply with ROH Chapter 16.

(5) Amending Subsection C104.2.6. Subsection C104.2.6 is amended to read:

C104.2.6 Final inspection. The building must have a final inspection and cannot be occupied until approved. The final inspection must include verification of the installation of and proper operation of all required building controls, and documentation verifying activities associated with required building commissioning have been conducted and any findings of noncompliance corrected.

(6) Amending Subsection C104.6. Subsection C104.6 is amended to read:

C104.6 Re-inspection and testing. Where any work or installation does not pass an initial test or inspection, the necessary corrections must be made to achieve compliance with this code. The work or installation must then be resubmitted to the responsible code official for inspection and testing as required by this code.

(7) Amending Subsection C104.7. Subsection 104.7 is amended to read:

C104.7 Approval. After a building passes all tests and inspections required by this code, the responsible design professional must submit a confirmation letter to the code official certifying that the building has passed all of the tests and inspections required and stating that the building owner has received the Preliminary Commissioning Report, as required by IECC Section C408.2.4.

(8) Amending Subsection C107.1. Subsection C107.1 is amended to read:

C107.1 Fees. Prescribed fees must comply with ROH Chapter 18.

(9) Amending Subsection C108.1. Subsection C108.1 is amended to read:

C108.1 Authority. Stop work order must comply with ROH Chapter 18.

(10) Amending Subsection C109.1. Subsection C109.1 is amended to read:

C109.1 General. Board of Appeals must comply with ROH Chapter 16.

A BILL FOR AN ORDINANCE

(11) Amending Section C202. Section C202 is amended by:

(a) Amending the definition of "CODE OFFICIAL" to read:

CODE OFFICIAL means the Director of Planning and Permitting or the director's authorized representative.

(b) Amending the definition of "DWELLING UNIT" to read:

DWELLING UNIT means a building or portion thereof that contains living facilities, including permanent provisions for living, sleeping, eating, cooking and sanitation, as required by this code, for not more than one family, or a congregate residence for 16 or fewer persons.

(c) Adding the following definition of "RENEWABLE ENERGY" immediately before the definition of "REPAIR:"

RENEWABLE ENERGY by reference to HRS §269-91, renewable energy means energy generated or produced using the following sources:

1. Wind;
2. Sun;
3. Falling water;
4. Biogas, including landfill and sewage-based digester gas;
5. Geothermal;
6. Ocean water, currents and waves, including ocean thermal energy conversion;
7. Biomass, including biomass crops, agricultural, and animal residues and waste and municipal solid waste and other solid waste;
8. Biofuels; and
9. Hydrogen produced from renewable energy sources.

(12) Amending Subsection C402.2.3. Subsection C402.2.3 is amended to read:

C402.2.3 Thermal resistance of above-grade walls. The minimum *R*-value of materials installed in the wall cavity between framing members and continuously on the wall shall be as specified in Table C402.1.3, based on framing type and construction materials used in the wall assembly.

Exception: Continuous insulation for wood and metal framed walls are not required when one of the following conditions are met:

1. Walls have a covering with a reflectance of equal to or greater than 0.64 and/or overhangs with a projection factor equal to or greater than 0.3;

2. Walls have overhangs with a projection factor equal to or greater than 0.3. The projection factor is the horizontal distance from the surface of the wall to the farthest most point of the overhang divided by the vertical distance from the first floor level to the bottom-most point of the overhang; or

3. Concrete, concrete masonry units (CMU), and similar mass walls are six inches or greater in thickness.

   The *R*-value of integral insulation installed in CMUs shall not be used in determining compliance with Table C402.1.3. Mass walls must include walls:

   1. Weighing not less than 35 psf (170 kg/m^2) of wall surface area.

   2. Weighing not less than 25 psf (120 kg/m^2) of wall surface area where the material weight is not more than 120 psf (1900 kg/m^3).

   3. Having a heat capacity exceeding 7 Btu/ft^2°F (144 cage/m^2 • K).

   4. Having a heat capacity exceeding 5 Btu/ft^2°F (103 kJ/m^2• K), where the material weight is not more than 120 pcf (1900 kg/m^3).

   Exception: Concrete, CMU, and similar mass walls are six inches or greater in thickness.

(13) Amending Subsection C402.4.1.2. Subsection C402.4.1.2 is amended to read:

C402.4.1.2 Increased skylight area with daylight responsive controls. The skylight area shall be permitted to be not more than five percent of the roof area

provided *daylight responsive controls* complying with Section C405.2.3.1 are installed in *daylight zones* under skylights.

Exception: Spaces where the designed general lighting power densities are equal to or less than 60 percent of the lighting power densities specified in Table C405.2(1) or C405.4.2(2).

(14) Adding Subsection C403.2.4.2.4. Subsection C403.2.4.2.4 is added to read:

C403.2.4.2.4 Door switches. Opaque and glass doors opening to the outdoors in hotel and motel sleeping units, guest suites, and timeshare condominiums must be provided with controls that disable the mechanical cooling or reset the cooling setpoint to 90 degrees Fahrenheit or greater within five minutes of the door opening. Mechanical cooling may remain enabled if the outdoor air temperature is below the space temperature.

(15) Amending Subsection C405.2. Subsection C405.2 is amended by amending the exceptions to read:

Exception: Spaces that use 60 percent or less of designated watts per square foot are exempt from Sections C405.2.2 (Time switch controls) and C405.2.3 (Daylight-responsive controls).

(16) Amending Subsection C406.3. Subsection C406.3 is amended to read:

C406.3 Reduced lighting power density. The total interior lighting power (watts) of the building shall be determined by using 80 percent of the lighting power values specified in Table C405.4.2(1) times the floor area for the building types, or by using 80 percent of the lighting power values specified in Table C405.4.2(2) times the floor area for the building type, or by using 80 percent of the interior lighting power allowance calculated by the Space-by-Space Method in Section C405.4.2.

(17) Adding Subsection C406.8. Subsection C406.8 is added to read:

C406.8 Electric vehicle infrastructure. New residential multi-unit buildings that have eight or more parking stalls, and new commercial buildings that have twelve or more parking stalls, must be electric vehicle charger ready for at least 25 percent of the parking stalls. As used in this section, "electric vehicle charger ready" means that sufficient wire, conduit, electrical panel service capacity, overcurrent protection devices and suitable termination points are provided to

connect to a charging station capable of providing simultaneously an AC Level 1 charge per required parking stall for residential and multi-unit buildings. For commercial buildings, at least 25 percent of the parking stalls are required to be AC Level 2 charger ready. Charge method electrical ratings are provided below:

CHARGE METHODS ELECTRICAL RATING

Charge Method	Normal Supply Voltage (Volts)	Maximum Current (Amps – Continuous)	Supply power
AC Level 1	120V AC, 1-phase 120V AC, 1-phase	12A 16A	120VAC/20A (12-16A continuous)
AC Level 2	208 to 240V AC, 1-phase	≤ 80A	208/240VAC/20-100A (16-80A continuous)

(18) Amending Subsection C408.2.4.1. Subsection C408.2.4.1 is amended to read:

C408.2.4.1 Acceptance of reports. Buildings, or portions thereof, shall not be considered acceptable for a certificate of occupancy until the *code official* has received a letter of transmittal from the building owner acknowledging that the building owner or owner's authorized agent has received the Preliminary Commissioning Report.

(19) Amending Subsection C408.3.1. Subsection C408.3.1 is amended to read:

C408.3.1 Functional testing. Prior to issuance of a certificate of occupancy, the *licensed design professional* shall provide evidence that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the *construction documents* and manufacturer's instruction. Functional testing must be in accordance with Sections C408.3.1.1 and C408.3.1.2 for the applicable control type.

(20) Amending Subsection C501.4. Subsection C501.4 is amended to read:

C501.4 Compliance. *Alterations, repairs, additions* and changes of occupancy to, or relocation of, existing buildings and structures must comply with the provisions and regulations for *alterations, repairs, additions* and changes of occupancy to, or relocation of, respectively, required by this code.

(21) Amending Subsection C503.3.1. Subsection C503.3.1 is amended to read:

C503.3.1 Roof replacement. *Roof replacements* must comply with Table C402.1.3 or C402.1.4 where the existing roof assembly is part of the *building thermal envelope* and contains insulation entirely above the roof deck.

Exception: The following alterations need not comply with the requirements for new construction, provided the energy use of the building is not increased. When uninsulated roof sheathing is exposed during alteration, two of the following must be installed:

1. Table C402.3 (solar reflectance); Energy Star compliant roof covering;
2. Radiant barrier;
3. Attic ventilation via solar attic fans or ridge ventilation or gable ventilation; and/or
4. Two or more of the exceptions listed in Table C402.3.

(22) Amending Subsection R103.1. Subsection R103.1 is amended to read:

R103.1 General. Construction documents and other supporting data must be submitted to indicate compliance with this code. The construction documents shall be prepared, designed, approved and observed by a duly licensed design professional, as required by HRS Chapter 464. The responsible design professional must provide on the plans a signed statement certifying that the project is in compliance with this code.

Exception: Any building, electrical or plumbing work that is not required to be prepared, designed, approved or observed by a licensed professional architect or engineer, pursuant to HRS Chapter 464. Specifications and necessary computations need not be submitted when authorized by the *Code Official*.

(23) Amending Subsection R401.2. Subsection R401.2 is amended to read:

R401.2 Compliance. Projects must comply with one of the following:

1. Sections R401.3 through R404;

2. Section R405 and the provisions of Sections R401 through R404 labeled "mandatory";

3. An energy rating index (ERI) approach in Section R406; or

4. The Tropical Zone requirements in Section R401.2.1.

(24) Amending Subsection R401.2.1. Subsection R401.2.1 is amended to read:

R401.2.1 Tropical zone. *Residential buildings* in the tropical zone at elevations below 2,400 feet (731.5 m) above sea level must comply with this chapter by satisfying the following conditions:

1. Not more than one-half of the area of the *dwelling unit* is air conditioned.

2. The *dwelling unit* is not heated.

3. Solar, wind, or another renewable energy source supplies not less than 90 percent of the energy for service water heating.

4. Glazing in conditioned space must have a maximum *solar heat gain coefficient* as specified in Table R402.2.1.

5. Skylights in dwelling units must have a maximum Thermal Transmittance (U-factor), as specified in Table R402.1.2.

6. Permanently installed lighting is in accordance with Section R404.

7. The roof/ceiling complies with one of the following options:

   a. Comply with one of the roof surface options in Table C402.3 and install R-13 insulation or greater; or

   b. Install R-19 insulation or greater.

   If present, attics above the insulation are vented and attics below the insulation are unvented.

   Exception: The roof/ceiling assembly are permitted to comply with Section R407.

8. Roof surfaces have a minimum slope of one fourth inch per foot of run. The finished roof does not have water accumulation areas.

9. Operable fenestration provides ventilation area equal to not less than 14 percent of the floor area in each room. Alternatively, equivalent ventilation is provided by a ventilation fan.

10. Bedrooms with exterior walls facing two different direction have operable fenestration or exterior walls facing two different directions.

11. Interior doors to bedrooms are capable of being secured in the open position.

12. Ceiling fans or whole house fans are provided for bedrooms and the largest space that is not used as bedroom.

13. Jalousie windows must have an air infiltration rate of no more than 1.2 cfm per square foot (6.1 L/s/m^2).

14. Walls, floors and ceilings separating air conditioned spaces from non-air conditioned spaces shall be constructed to limit air leakage in accordance with the requirements in Table R402.4.1.1.

(25) Amending Table R402.2.1. Table R402.2.1 is amended to read:

Table R402.2.1. Window SHGC Requirements

Projection Factor of overhang from base of average window sill	SHGC
< 0.30	0.25
0.30 - 0.50	0.40
≥ 0.50	N/A

Exception: North-facing windows with pf > 0.20 are exempt from the SHGC requirement. Overhangs shall extend two feet on each side of window or to nearest wall, whichever is less.

(26) Amending Subsection R402.3.2. Subsection R402.3.2 is amended to read:

R402.3.2 Glazed fenestration SHGC. Fenestration must have a maximum *solar heat gain coefficient* as specified in Table R402.1.2. An area-weighted average

of fenestration products more than 50 percent glazed shall be permitted to satisfy the SHGC requirements.

Exception: *Dynamic glazing* is not required to comply with this section when both the lower and higher labeled SHGC already comply with the requirements of Table R402.1.2.

(27) Amending Table R402.1.2. Table R402.1.2 is amended by deleting "13" in the first row ("1") under the column "FLOOR *R*-VALUE" and replacing with "NR[j]" and adding a footnote j to read:

j. **Exception:** *R*-values for mass walls are not required if mass walls have a coating with a reflectance of 0.64 or greater and/or walls have overhangs with a projection factor equal to or greater than 0.3.

(28) Adding Subsection R403.5.5. Subsection R403.5.5 is added to read:

R403.5.5 Solar water heating. Residential single-family buildings must use solar, wind or another renewable energy source for not less than 90 percent of the energy for service water heating.

Exception: If an architect or mechanical engineer licensed under HRS Chapter 464 attests and demonstrates that installation is impracticable due to poor solar resource or installation is cost-prohibitive based upon a life cycle cost-benefit analysis that incorporates the average residential utility bill and the cost of the new solar water heater system with a life cycle that does not exceed fifteen years, then one of the following technologies advancing renewable energy shall be used for service water heating: 1) a grid-interactive water heater; 2) a heat pump water heater; or 3) a gas-powered water heater that is fueled by a source that is not less than 90 percent renewable. For the purpose of this section, "grid-interactive water heater" means an electric resistance water heater fitted with grid-integrated controls that are capable of participating in an electric utility load control or demand response program.

(29) Adding Subsection R403.6.2. Subsection R403.6.2 is added to read:

R403.6.2 Ceiling fans (Mandatory). A ceiling fan or whole house fan is provided for bedrooms and the largest space that is not used as bedroom.

(30) Adding Subsection R404.2. Subsection R404.2 is added to read:

R404.2 Ceiling fans (Mandatory). A ceiling fan or whole-house fan is provided for bedrooms, provided the whole house mechanical ventilation system complies with the efficacy requirements of Table R403.6.1.

(31) Adding Subsection R404.3. Subsection R404.3 is added to read:

R404.3 Electric Vehicle Capability. In addition to what is required by the Electrical Code, a dedicated receptacle for an electrical vehicle must be provided for each residence which provides at a minimum, Level 1 service.

(32) Amending Table R405.5.2(1). Table R405.5.2(1) is amended to read:

Table R405.5.2(1)
SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Heating Systems	Fuel type: Same as proposed design	As proposed
	Efficiencies	
	Electric: Air-source heat pump with prevailing federal minimum standards	As proposed
	Nonelectric furnaces: Natural gas furnace with prevailing federal minimum standards	As proposed
	Nonelectric boilers: Natural gas boiler with prevailing federal minimum standards	As proposed
	Capacity: Sized in accordance with Section R403.7	As proposed

Cooling systems	Fuel type: Electric Efficiency: In accordance with prevailing federal minimum standards Capacity: Sized in accordance with Section R403.7	As proposed As proposed
Service water heating	Fuel type: Same as proposed design Efficiency: In accordance with prevailing federal minimum standards Use: Same as proposed design	As proposed As proposed gal/day=30+(10x *Nbr*)

(33) Adding Table R407.1. Table R407.1 is added to read:

TABLE R407.1

POINTS OPTION

Walls		**Standard Home Points**	**Tropical Home Points**
Wood Framed			
	R-13 Cavity Wall Insulation	0	1
	R-19 Roof Insulation	-1	0
	R-19 Roof Insulation + Cool roof membrane[1] or Radiant Barrier[3]	0	1
	R-19 Roof Insulation + Attic Venting[2]	0	1
	R-30 Roof Insulation	0	1
	R-13 Wall Insulation + high reflectance walls[4]	1	2
	R-13 Wall insulation + 90% high efficacy lighting and Energy Star Appliances[5]	1	2
	R-13 Wall insulation + exterior shading wpf=0.3[b]	1	2
	Ductless Air Conditioner[7]	1	1
	1.071 X Federal Minimum SEER for Air Conditioner	1	1

	1.142 X Federal Minimum SEER for Air Conditioner	2	2
	No air conditioning installed	Not applicable	2
	House floor area ≤ 1,000 ft^2	1	1
	House floor area ≥ 2,500 ft^2	-1	-1
	Energy Star Fans[8]	1	1
	Install 1 kw or greater of solar electric	1	1
Metal Framed			
	R-13 + R-3 Wall Insulation	0	1
	R-13 Cavity Wall insulation + R-0	-1	0
	R-13 Wall Insulation + high reflectance walls[4]	0	1
	R-13 Wall Insulation + 90% high efficacy lighting and Energy Star Appliances[5]	1	2
	R-13 Wall Insulation + exterior shading wpf=0.3[6]	0	1
	R-30 Roof Insulation	0	1
	R-19 Roof Insulation	-1	0
	R-19 + Cool roof membrane[1] or Radiant Barrier[3]	0	1
	R-19 Roof Insulation + Attic Ventilation	0	1
	Ductless Air Conditioner[7]	1	1
	1.071 X Federal Minimum SEER for Air Conditioner	1	1
	1.142 X Federal Minimum SEER for Air Conditioner	2	2
	No air conditioning installed	Not Applicable	2
	House floor area ≤ 1,000 ft^2	1	1
	House floor area ≥ 2,500 ft^2	-1	-1
	Energy Star Fans[7]	1	1
	Install 1 kw or greater of solar electric	1	1

[1] Cool roof with three-year aged solar reflectance of 0.55 and 3-year aged thermal emittance of 0.75 or 3-year aged solar reflectance index of 64.

[2] One cfm/ft^2 attic venting.

[3] Radiant barrier shall have an emissivity of no greater than 0.05 as tested in accordance with ASTM E-408. The radiant barrier shall be installed in accordance with the manufacturer's installation instructions.

[4] Walls with covering with a reflectance of ≥ 0.64.

[5] Energy Star rated appliances include refrigerators, dishwashers, and clothes washers and must be installed for the Certificate of Occupancy.

[6] The wall projection factor is equal to the horizontal distance from the surface of the wall to the farthest most point of the overhang divided by the vertical distance from the first floor level to the bottom most point of the overhang.

[7] All air conditioning systems in the house must be ductless to qualify for this credit.

[8] Install ceiling fans or whole-house fans in all bedrooms and the largest space that is not used as a bedroom.

(34) Amending Subsection R501.4. Subsection R501.4 is amended to read:

R501.4 Compliance. Alterations, repairs, additions, and changes of occupancy to, or relocation of, existing buildings and structures must comply with the provisions and regulations for alterations, repairs, additions, and changes of occupancy to, or relocation of, respectively required by this code.

(35) Amending Subsection R503.1.1. Subsection R503.1.1 is amended by adding the following exception and footnote to the exception to read:

7. When uninsulated roof sheathing is exposed during alteration, a minimum of two of the following shall be installed:

   a. Energy Star compliant roof covering;

   b. Radiant barrier;

   c. Attic ventilation via solar attic fans or ridge ventilation or gable ventilation; or

   d. A minimum of two exceptions listed in C402.3.

Footnote to exception: Shake roofs on battens shall be replaced with materials that result in equal or improved energy efficiency."

A BILL FOR AN ORDINANCE

SECTION 4. This ordinance takes effect 90 days after its approval.

INTRODUCED BY:

Ann Kobayashi (br)

DATE OF INTRODUCTION:

May 6, 2019
Honolulu, Hawaii

Councilmembers

APPROVED AS TO FORM AND LEGALITY:

Deputy Corporation Counsel

APPROVED this _____day of _____, 20 _____.

KIRK CALDWELL, Mayor
City and County of Honolulu